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DE FR GB(56) Date of deferred publication of search report:  
15.04.92 Bulletin 92/16(71) Applicant: Exxon Production Research  
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## (54) Seismic trace Interpolation.

(57) A method for seismic trace interpolation by dip range analysis is disclosed. A series of dip ranges are defined by a plurality of dips. A trace estimate for each of the dip ranges is generated by filtering with a mathematically integrated time shift in each frequency component of each seismic trace appearing in the dip range. These filtered frequency components may then be passed through a low pass filter. The sum of the filtered frequency components is the trace estimate. The seismic traces are then demodulated to obtain the trace envelopes whose values along the above mentioned dips are examined for continuity. A continuity factor is developed for each dip and then each of the continuity factors is summed and the sum divided by the number of continuity factors to obtain a weighting function. The weighting functions are multiplied with the trace estimates, and the results summed to obtain the interpolated trace.

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## EUROPEAN SEARCH REPORT

Application Number

EP 91 30 2201

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. CL.5)						
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claims							
X	US-A-4 860 265 (S. J. LASTER ET AL.) * column 6, line 5 - column 7, line 42 *	1,4	G01V1/28						
Y	—	5							
Y	US-A-4 570 246 (E. F. HERKENHOFF ET AL.) * column 10, line 66 - column 11, line 11 *	5							
A	—	1-4							
X	US-A-4 760 563 (G. BEYLKIN) * column 7, line 1 - line 43; figure 9 *	1,4							
A	US-A-4 594 693 (K. PANN ET AL.) —								
			TECHNICAL FIELDS SEARCHED (Int. CL.5)						
			G01V						
<p>The present search report has been drawn up for all claims</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Place of search</td> <td style="width: 33%;">Date of compilation of the search</td> <td style="width: 34%;">Examiner</td> </tr> <tr> <td>THE HAGUE</td> <td>12 FEBRUARY 1992</td> <td>SMARTJES H. M.</td> </tr> </table>				Place of search	Date of compilation of the search	Examiner	THE HAGUE	12 FEBRUARY 1992	SMARTJES H. M.
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THE HAGUE	12 FEBRUARY 1992	SMARTJES H. M.							
<b>CATEGORY OF CITED DOCUMENTS</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"> X : particularly relevant if taken alone  Y : particularly relevant if combined with another document of the same category  A : technical background  O : non-tactical disclosure  P : interesting document </td> <td style="width: 50%;"> T : theory or principle underlying the invention  E : earlier patent document, but published on, or after the filing date  D : document cited in the application  L : document cited for other reasons  R : member of the same patent family, corresponding document </td> </tr> </table>				X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technical background O : non-tactical disclosure P : interesting document	T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons R : member of the same patent family, corresponding document				
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